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Maldives Meteorological Service

Rainfall and Temperature Outlook over Maldives

For September 2022

Summary

Rainfall is likely to be above-normal over northern atolls, normal over part of central atolls and below-normal over rest of the country.

Temperature is expected to be below-normal over northern and central atolls, slightly above-normal over southern atolls.

Introduction

This consensus outlook on rainfall and temperature for Maldives has been prepared through assessments including prevailing regional and global climate condition and prediction of various climate models, seasonal forecast of WMO Lead Centre for Long-Range Forecast Multi-Model Ensemble (LC-LRFMME), North American Multi-Model Ensemble (NMME) Forecasts of Monthly Climate Anomalies, Multi-model Ensemble Based Seasonal Climate Prediction of Forecast Customization System (FOCUS), climate driver update of Bureau of Meteorology (BoM) and monthly forecasts of European Centre for Medium-Range Weather Forecasts (ECMWF).

Current status of major climate drivers.

El Niño Southern Oscillation (ENSO): La Niña condition persists with below average equatorial Sea Surface Temperatures across most of the Pacific Ocean. Global models indicate La Niña condition to continue during September 2022.

Indian Ocean Dipole (IOD): Global models indicate cool sea surface temperature anomalies over northwest Indian Ocean and warm over east Indian Ocean that are close to negative IOD threshold levels. Negative IOD conditions are expected and likely to continue in the coming months.

Madden-Julian Oscillation (MJO): MJO is weak over Maritime Continent. It is likely to continue eastward propagation with weak amplitude and over Indian Ocean by the 3rd week.





Calibration of climate models

Climate Predictability Tool (CPT) was used to downscale global model outputs to local scale. These results indicate above-normal rainfall over the northern atolls and part of central atolls, below normal-normal over rest of the country for September 2022.

Global Producing Centres and WMO Lead Centre Forecasts

Probabilistic Multi-Model Ensemble of WMO LC-LRFMME indicates below-normal rainfall over southern atolls and part of central atolls, climatological probability over rest of the country during September 2022. Probabilistic Multi-Model Ensemble of WMO LC-LRFMME indicates above-normal Temperature over part of southern atolls, below normal tempertaure over northern atolls and part of central and, climatological probability over rest of the country for September 2022.

Climatic condition during the month of August

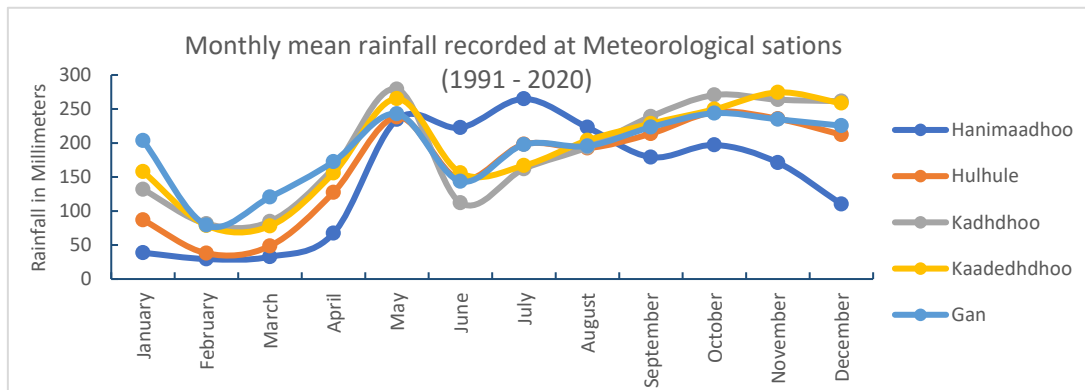


Figure 1- During the period 1991 - 2020, monthly mean rainfall of September are 239, 229, 223, 214 and 179 millimeters in L.Kadhdhoo, Gdh.Kaadeddhoo, S.Gan, and Hulhule and Hdh.Hanimaadhoo respectively.

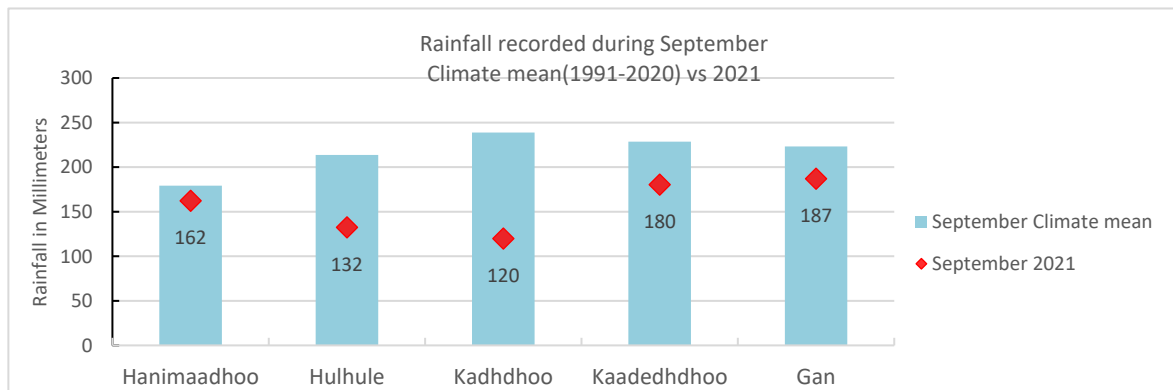


Figure 2- In September 2021, Haimaadhoo received normal rainfall and other stations received below rainfall than climate mean for the month. Hanimaadhoo recorded 91% of climate normal while other stations recorded less than 90% of climate normal for the month.

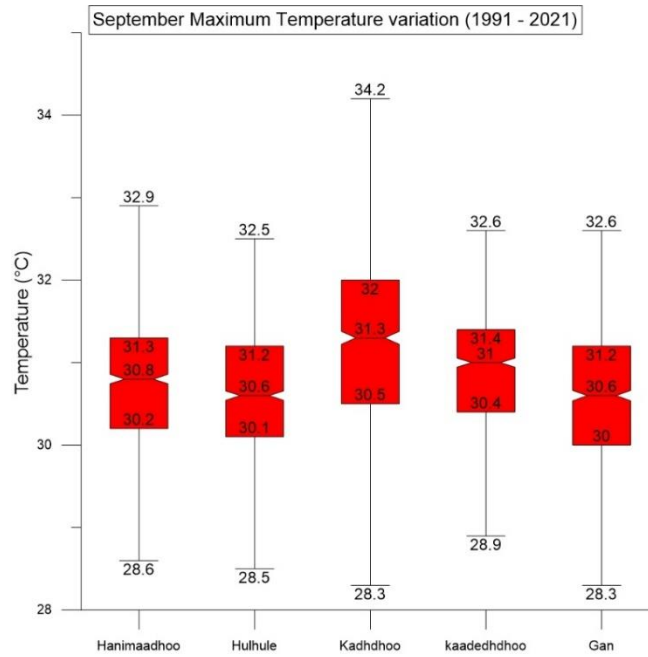


Figure 3: Daily Maximum Temperature range at Meteorological stations during September for the period 1991-2021. Highest maximum Temperature of 34.2°C recorded at Kadhdhoo Meteorological Office.

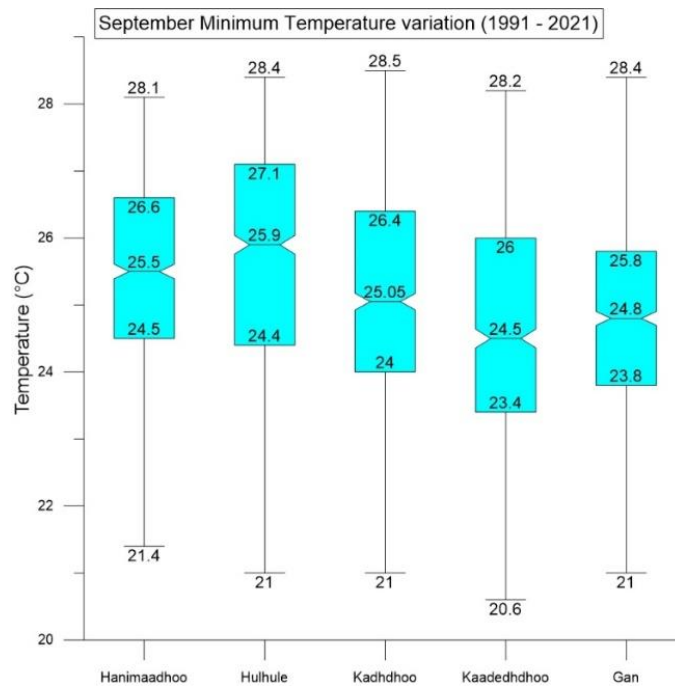


Figure 4: Daily Minimum Temperature range at Meteorological stations during September for the period 1991-2021, showing lowest minimum Temperature of 20.6°C at Kaadedhdhoo Meteorological Office.

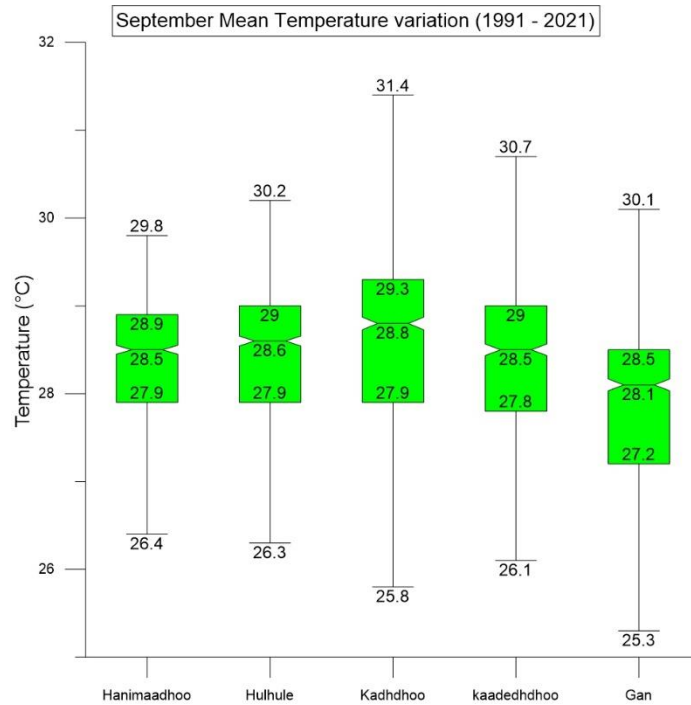


Figure 5: Daily Mean Temperature range at Meteorological stations during August for the period 1991-2021. It shows most (50%) of the times daily average temperature lies between 28.9– 27.9°C in Hanimaadhoo, 29.0 – 27.9°C in Hulhule, 29.3 – 27.9°C in Kadhdhoo, 29.0 – 27.8°C in Kaadedhdhoo and 28.5 - 27.°C in Gan.

Conclusion

By considering the La Niña and IOD condition, expected weak MJO activity, Multi-Model Ensemble of WMO Lead Centre forecasts, NMME forecasts, FOCUS forecasts and climate data of Maldives, rainfall is likely to be above-normal over northern atolls, normal over part of central atolls and below-normal over rest of the country.

Temperature is expected to be below-normal over northern and central atolls, slightly above-normal over southern atolls.

Note:

Normal: Amount of rainfall between 90% - 110% of the average for the period.

Above normal: Amount of rainfall more than 110% of the average for the period.

Below Normal: Amount of rainfall less than 90% of the average for the period